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PHYSICIANS AS A FACTOR IN NATIONAL EFFICIENCY

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When war seems a distant improbability, we are wont to reckon our man power in terms of our total population. But when war is upon us we can speak with safety at a given moment only in terms of trained, available population. We are forced to divide our men according to age, physical fitness, intelligence, and economic status, and then to subdivide them again and again according to previous occupation and fitness for particular branches of service. Such a classification, however, cannot be regarded as permanent for the duration of any war. The changing conditions of combat call for changed training and for new proficiency in unforeseen directions. No one, for instance, anticipated in 1914 that infantry battalions would rely upon other weapons than rifle, bayonet, and machine-gun; yet today we assume infantry organization that includes not only riflemen and machine-gunners but grenadiers and rifle-grenadiers. We have even gone beyond this and, in every belligerent country, have organized specific "shock-troops," whose duty it is to storm positions and to hold them for the less perfectly trained "troops of occupation."

INCREASING NEED OF PHYSICIANS

The medical service has shared in this specialization in war for two reasons that will instantly be apparent. In the first place, the scope and possibilities of what we broadly style "medical" service has increased vastly since the last great war. More duties can be performed; more men and more technically trained men are needed for them. In the second place, the size of armies and the immense casualties under modern conditions of war have created an increased demand for surgeons and for physicians. Perhaps we can see this factor in its true perspective when we recall that the total casualties in the French army alone since August 1914, exceeded the gross enlistments in the federal armies during the war between the states.

It goes without saying that a patriotic nation will meet the call for physicians in precisely the same spirit that it meets the call for

men to take places in the ranks. In no spirit of flamboyant ostentation but with a decision suited to the immensity of the issue, the American public is willing to give the last physician from the last hospital, if need be, rather than that our soldiery should suffer for lack of medical attention. Nevertheless, now that war is a question of industrial, not less than of military organizations—a clash of nations not less than of armies—this, likewise, is a truism: If the health of the military population is a sanitary problem, then the health of the civil population is almost in like proportion a military problem. Neither can be neglected, except at the prejudice of the other.

We find conditions about what we would have reason to expect in the premises. Approximately 20 per cent of the physicians and surgeons of America are now devoting themselves exclusively to 2 per cent of the population—the men under arms. In consequence, the civil population dependent upon the attention of the average doctor is larger than it has been in many years. Before the war there was in America an average of one physician for every 900 people; today, there is scarcely one for every 1,100 people. Even these figures do not adequately define our problem. Those who have been accepted and have left private practice are, in the main, the most active, the most capable, and professionally the best qualified. To read the roster of the medical reserve corps is to open the scroll of medical fame in the United States. Furthermore, we must remember that the effects of the withdrawal of 20 per cent of our physicians, the best and the ablest, vary much in the different parts of the union. In the cities, the loss has not been a serious matter thus far—probably because, in part, the cities were professionally oversupplied and certainly, in part, because where the area of practice is small, a physician can multiply his service by a relatively short extension of his working-time. In rural districts, on the other hand, the removal of a single physician often puts upon those who remain a duty the performance of which is rendered sometimes impossible by the mere factors of time and of distance. I can cite communities where, already, sick persons go for days without medical attention because no physician is available. And we are merely at the beginning of the war, when the forces under arms are probably not a third what they must be before a decision is reached.

Medical service is a commodity. As such, when its lack creates

a sanitary and military problem, we naturally look for a solution to the laws of supply and demand. In so doing, you will of course observe, we are merely illustrating how largely these and all other sanitary questions are economic.

Is it practicable to increase the supply of physicians—that is the nearer horn of the dilemma. To do this we should have to employ one or more of these expedients, namely, to increase the number of medical students and to speed up their education, or to relax the requirements for the practice of medicine. Upon the last-named expedient it is manifestly unnecessary to dwell: it is better to endure a shortage than to produce an unsatisfactory supply, and as a good physician is always needed to repair the damage a poor physician does, we shall be creating a new problem without solving the present one if we open the doors to quacks and ill-qualified doctors. What we can do in the direction of increasing the supply, therefore, resolves itself largely into what we can do in increasing the number of medical students and in expediting their training. Here, again, we are confronted with very manifest obstacles. The men who would make the most desirable medical students are, in the main, of draft age and many of them have already volunteered for service. Our supply of raw material, so to speak, is almost as scarce as our supply of the finished product to say nothing of the fact that four years must elapse before even the college graduate can be made into a practitioner of medicine. Furthermore, you will recall that this shortage comes just at the time when so many of the medical colleges are putting into effect the newer entrance requirements which at once reduce the number of men who can study medicine and place those men the more surely within the draft age. Scarcely more hopeful is the prospect of speeding up medical education. We cannot, of course, permit any reduction in the total time devoted to medical education; our only hope lies in compressing the necessary months of study into a briefer time on the calendar. This can only be accomplished by eliminating the vacations in our medical colleges during the next few years, giving in three years the same training now spread over four. Despite obvious objections to such a policy, it seems to me wise, if not imperative at this time, and I am surprised to note that positive progress in this direction has not been made by the medical schools of the country.

It may seem to some that it is futile to dwell at all upon any possible increase in the supply of physicians where the necessary education is so long. I would only remind them, in passing, that we know every month of war will bring new demands for physicians and we have absolutely no means of ascertaining how long this drain will continue. If the war department is making all its plans on the basis of a five-year war, it behooves the medical profession to do likewise. More than this, we must reckon upon these three facts: That the tide of physicians had begun to turn before the war; that the number of men in the medical schools was scarcely as great as the number of men in the twilight of their practice; and that many who have gone into the medical reserve corps will remain there of their own choice, in the new, larger army that America must maintain for years after the war. Still others will have to continue, long after the conclusion of hostilities, to provide for the wounded and to supervise the great work of reconstruction. Altogether, the outlook is serious enough to justify a careful consideration of what we must do to meet a shortage of physicians that will not pass with the war.

MEDICAL EDUCATION OF THE LAITY

If we cannot, then, appreciably increase the supply of physicians to take the place of the 20 per cent who are now devoting themselves to 2 per cent of the population, our only alternative is to reduce the demand. Here we are on sure and fruitful ground, for we know that by the prevention of disease the need for physicians can be reduced. Reaching this conclusion, logically and by elimination, our task is really to apply in war times what we have learned in times of peace. We cannot expect to teach America's industrial army of 10,000,000 how to set fractures, but we can teach many of them how to prevent the accidents that cause fractures.

We cannot train the laity to give surgical treatment to septic cases, but is it too much to hope to train them to give proper first aid to the cases that, if neglected, would require the operative procedure of a surgeon? We cannot train every housewife to treat typhoid fever, but we surely can show her how to prevent it. We cannot make every employer of labor an ambulance surgeon, but in a day when efficiency is at a premium, may we not hope to show him how better working conditions will keep his men fit? In short, as we

educate the people we can reduce the conditions that call for medical and surgical attention; as we do this, we reduce the demand for professional men and, in very large measure, offset the shortage of physicians.

Space permits me to mention only four of the many methods that will occur to all for the application of popular education to offset the shortage of physicians. The first is through the organization of First Aid classes in connection with the existing Red Cross societies, the Boy Scouts, the Y. M. C. A's, and the Y. W. C. A's. Regarding this, of course, there has been much sentimentality, which it is our duty to repress. We must discourage the view that the young girl who spends a few afternoons in listening to lectures and demonstrations on bandaging is qualified to do Red Cross service and is to be called, like another Florence Nightingale, to lighten the lazarettos of some Stamboul on the Aisne. At the same time, we must remember that whenever, by instruction in first aid, we can make unnecessary the visit of a physician, we have helped to overcome the shortage and have given a busy man an hour to devote to someone who really needs his attention.

In the second place, I bespeak the cause of popular education in the prevention of the common ills of the household. When all is said, most of these are simple, easily diagnosed, and almost as easily treated. Heaven forbid that we should turn every home into a drug-store and make an herb-doctor of every mother. Nevertheless, if the mother can treat and cure the stomachache for which otherwise she would call a physician to the tortured victim of green apples, we have saved the physician time, the community service, and the mother money. All three, at this juncture, are decidedly worth saving. We shall do well to discourage the mediæval view of medicine, fostered by the grasping and ignorant—that ours is a “mystery,” a “black art,” mastered in solitary meditation and after years of effort. We dignify, not discredit, medicine, when we assign to it tasks worth doing and relieve it of work others can perform.

Thirdly, I commend most heartily every effort that can be made at this time toward the reduction of occupational disease and accidents by improved conditions of factory labor. It would be foolish for me to enlarge upon the importance of all this to a nation engaged in war industry. As we save labor by this, so we save the time of physicians and consequently decrease the demand.

PREVENTION OF DISEASE BY THE LAITY

I come finally to what is most obvious and, withal, most vital, namely, relieving the shortage of physicians by preventing those diseases which experience has shown are easily prevented by any intelligent layman. The discoveries of the last generation have meant as much to the civil population in war time as to the armies in the field. Perhaps we can safely say these discoveries have meant more to civil life, for here we can control certain conditions that are beyond control in open campaigning. Particularly is this the case with the diseases of southern climates—the insect and filth-borne diseases, as malaria, yellow fever, typhoid fever, infection from hookworm and other intestinal parasites. These are among the most prevalent diseases in the South, and in many sections constitute a large part of a doctor's practice. They have acted like a blight upon some of the richest agricultural sections of our country, causing the land to become unproductive and many of the inhabitants to become the victims of that vicious circle of sickness, poverty and ignorance. In very recent years the causes of these diseases have been discovered and methods found to prevent them.

We are awakening slowly but surely to the possibilities presented through this new-found knowledge. The health departments are all being reorganized to meet the new conditions. Where formerly appropriations for health work were in the thousands, now they are in the tens of thousands and hundreds of thousands. The experience of these departments in the short time of their existence has justified the faith in prevention. Yellow fever, that until very recently periodically invaded our shores and demoralized business, even so far north as Philadelphia, has been conquered and is now no longer feared. Malaria, that depresses the value of many a fertile community, is becoming steadily less. It will surely be driven out just as soon as the people are willing to pay the price. There is no doubt about this possibility; the question now becomes one of economic practicability. In a community in Virginia in the summer of 1915, several persons died of a malignant type of malaria, and investigation showed that every inhabitant but one had had chills that summer. In the summer following in a local campaign of prevention, there were not only no deaths from this disease, but not a resident had chills. Typhoid fever, the disease which is looked upon as the index of sanitation, has in eight years been re-

duced in Virginia from approximately 14,500 cases to 5,200 a year, and in many communities the reduction has been 100 per cent. Summer complaints among infants, which have annually reaped a large harvest of deaths, are now classed among the preventable diseases. In one large city where sanitary measures and instructive work of the public health nurse were carried out, the death rate among infants has been reduced 50 per cent in five years' time. Hookworm disease, that numbers its victims by the hundreds of thousands, and which does not take its toll directly in deaths, but by blighting the physical and mental growth of the child and reducing his working power and usefulness, is being steadily eradicated.

VALUE OF PUBLIC HEALTH WORK

I would cite one instance to show the value of public health work as an aid to industry and to compensate for the shortage of labor. The superintendent of a lumber and manufacturing plant two years ago appealed to the State Board of Health for assistance, saying that on account of sickness the work of his plant was seriously interfered with. Some machines were always idle on account of the sickness of the employes, and he had great difficulty in securing sufficient labor. A special better health campaign was conducted, directed specially against malaria and the filth-borne diseases. Last fall the superintendent wrote that since the health work was instituted, no machine had been idle on account of sickness among the employes; that malaria had been reduced 99 per cent; that the employes and their families were healthy, happy and contented; and that his company had no difficulty in getting all the labor it wanted, notwithstanding the greatly disturbed condition of the labor markets resulting from the war and the government building activities going on in the state. The superintendent added that his company had not made a better investment than that spent for protecting the health of the employes.

These instances are cited to show what is being done and the possibility of what may be done to increase the man power of our country and develop our national efficiency by promoting the public health. To accomplish this result the health authorities must have the coöperation and assistance of all the people. We can then make America as safe for health as for democracy. We can conquer disease as surely as we can conquer the enemy. It is purely a question of means and of effort.